AMENDMENTS TO THE CLAIMS

1. (Original) A dispersion compensator, comprising:

an optical component having an accumulated chromatic dispersion of -1200 ps/nm or more but less than -600 ps/nm at a wavelength of 1.55 μm; and

a housing having a volume of 500 $cm^3$ or less for accommodating said optical component.

2. (Original) A dispersion compensator according to claim 1, wherein the volume V ($cm^3$) of said housing and the accumulated chromatic dispersion AD (ps/nm) of said optical component satisfy the following relationship:

$V \leq -0.31 \times AD + 120$.

3. (Original) An dispersion compensator according to claim 1, further having, as a characteristic at the wavelength of 1.55 μm, an insertion loss of 5.9 dB or less.

4. (Original) A dispersion compensator according to claim 1, wherein the insertion loss IL (dB) at the wavelength of 1.55 μm and the accumulated chromatic dispersion AD (ps/nm) of said optical component satisfy the following relationship:

$IL \leq -0.0033 \times AD + 1.9$.

5. (Original) A dispersion compensator according to claim 1, wherein said optical component includes an optical fiber comprising:

a center core part extending along a predetermined axis and having a predetermined maximum refractive index;

a first cladding part, provided on an outer periphery of said center core part, having a refractive index lower than that of said center core part;

a second cladding part, provided on an outer periphery of said first cladding part, having a refractive index higher than that of said first cladding part; and

a third cladding part, provided on an outer periphery of said second cladding part, having a refractive index lower than that of said second cladding part.

6. (Original) A dispersion compensator according to claim 5, further having, as a characteristic at the wavelength of 1.55 μm, a bending loss of 0.1 dB/km or less in a state wound at a diameter of 60 mm.

7. (Previously Presented) A dispersion compensator according to claim 5, wherein said second cladding part has a relative refractive index difference of 0.2% to 0.9% with reference to the refractive index of said third cladding part; and

wherein said optical fiber satisfies the following conditions:

$0.19 \leq a/c < 0.4$, and

$0.4 \leq b/c \leq 0.8$

where a is the outer radius of said center core region, b is the outer radius of said first cladding part, and c is the outer radius of said second cladding part.

8. (Currently Amended) A dispersion compensator, comprising:

an optical component having an accumulated chromatic dispersion of -600 ps/nm or more but less than ~~-0 ps/nm~~ -300 ps/nm at a wavelength of 1.55 μm; and

a housing having a volume of 310 $cm^3$ or less for accommodating said optical component.

9. (Original) A dispersion compensator according to claim 8, wherein the volume V ($cm^3$) of said housing and the accumulated chromatic dispersion AD (ps/nm) of said optical component satisfy the following relationship:

$V \leq -0.31 \times AD + 120.$

10. (Original) An dispersion compensator according to claim 8, further having, as a characteristic at the wavelength of 1.55 μm, an insertion loss of 3.9 dB or less.

11. (Original) A dispersion compensator according to claim 8, wherein the insertion loss IL (dB) at the wavelength of 1.55 μm and the accumulated chromatic dispersion AD (ps/nm) of said optical component satisfy the following relationship:

$IL \leq -0.0033 \times AD + 1.9.$

12. (Original) A dispersion compensator according to claim 8, wherein said optical component includes an optical fiber comprising:

a center core part extending along a predetermined axis and having a predetermined maximum refractive index;

a first cladding part, provided on an outer periphery of said center core part, having a refractive index lower than that of said center core part;

a second cladding part, provided on an outer periphery of said first cladding part, having a refractive index higher than that of said first cladding part; and

a third cladding part, provided on an outer periphery of said second cladding part, having a refractive index lower than that of said second cladding part.

13. (Original) A dispersion compensator according to claim 12, further having, as a characteristic at the wavelength of 1.55 μm, a bending loss of 0.1 dB/km or less in a state wound at a diameter of 60 mm.

14. (Previously Presented) A dispersion compensator according to claim 12, wherein said second cladding part has a relative refractive index difference of 0.2% to 0.9% with reference to the refractive index of said third cladding part; and

wherein said optical fiber satisfies the following conditions:

$0.19 \leq a/c < 0.4$, and

$0.4 \leq b/c \leq 0.8$

where a is the outer radius of said center core region, b is the outer radius of said first cladding part, and c is the outer radius of said second cladding part.

15. (Currently Amended) A dispersion compensator, comprising:

an optical component having an accumulated chromatic dispersion of -300 ps/nm or more but less than ~~-0 ps/nm~~ -180 ps/nm at a wavelength of 1.55 μm; and

a housing having a volume of 260 $cm^3$ or less for accommodating said optical component.

16. (Original) A dispersion compensator according to claim 15, wherein the volume V ($cm^3$) of said housing and the accumulated chromatic dispersion AD (ps/nm) of said optical component satisfy the following relationship:

$V \leq -0.31 \times AD + 120.$

17. (Original) An dispersion compensator according to claim 15, further having, as a characteristic at the wavelength of 1.55 μm, an insertion loss of 2.9 dB or less.

18. (Original) A dispersion compensator according to claim 15, wherein the insertion loss IL (dB) at the wavelength of 1.55 μm and the accumulated chromatic dispersion AD (ps/nm) of said optical component satisfy the following relationship:

$IL \leq -0.0033 \times AD + 1.9.$

19. (Original) A dispersion compensator according to claim 15, wherein said optical component includes an optical fiber comprising:

a center core part extending along a predetermined axis and having a predetermined maximum refractive index;

a first cladding part, provided on an outer periphery of said center core part, having a refractive index lower than that of said center core part;

a second cladding part, provided on an outer periphery of said first cladding part, having a refractive index higher than that of said first cladding part; and

a third cladding part, provided on an outer periphery of said second cladding part, having a refractive index lower than that of said second cladding part.

20. (Original) A dispersion compensator according to claim 19, further having, as a characteristic at the wavelength of 1.55 μm, a bending loss of 0.1 dB/km or less in a state wound at a diameter of 60 mm.

21. (Previously Presented) A dispersion compensator according to claim 19, wherein said second cladding part has a relative refractive index difference of 0.2% to 0.9% with reference to the refractive index of said third cladding part; and

wherein said optical fiber satisfies the following conditions:

$0.19 \leq a/c < 0.4$, and

$0.4 \leq b/c \leq 0.8$

where a is the outer radius of said center core region, b is the outer radius of said first cladding part, and c is the outer radius of said second cladding part.

22. (Currently Amended) A dispersion compensator, comprising:

an optical component having an accumulated chromatic dispersion of -180 ps/nm or more but less than ~~-0 ps/nm~~ -80 ps/nm at a wavelength of 1.55 μm; and

a housing having a volume of 200 $cm^3$ or less for accommodating said optical component.

23. (Original) A dispersion compensator according to claim 22, wherein the volume V ($cm^3$) of said housing and the accumulated chromatic dispersion AD (ps/nm) of said optical component satisfy the following relationship:

$$V \leq -0.31 \times AD + 120.$$

24. (Original) An dispersion compensator according to claim 22, further having, as a characteristic at the wavelength of 1.55 μm, an insertion loss of 2.5 dB or less.

25. (Original) A dispersion compensator according to claim 22, wherein the insertion loss IL (dB) at the wavelength of 1.55 μm and the accumulated chromatic dispersion AD (ps/nm) of said optical component satisfy the following relationship:

$$IL \leq -0.0033 \times AD + 1.9.$$

26. (Original) A dispersion compensator according to claim 22, wherein said optical component includes an optical fiber comprising:

a center core part extending along a predetermined axis and having a predetermined maximum refractive index;

a first cladding part, provided on an outer periphery of said center core part, having a refractive index lower than that of said center core part;

a second cladding part, provided on an outer periphery of said first cladding part, having a refractive index higher than that of said first cladding part; and

a third cladding part, provided on an outer periphery of said second cladding part, having a refractive index lower than that of said second cladding part.

27. (Original) A dispersion compensator according to claim 26, further having, as a characteristic at the wavelength of 1.55 μm, a bending loss of 0.1 dB/km or less in a state wound at a diameter of 60 mm.

28. (Previously Presented) A dispersion compensator according to claim 26, wherein said second cladding part has a relative refractive index difference of 0.2% to 0.9% with reference to the refractive index of said third cladding part; and

wherein said optical fiber satisfies the following conditions:

$0.19 \leq a/c < 0.4$, and

$0.4 \leq b/c \leq 0.8$

where a is the outer radius of said center core region, b is the outer radius of said first cladding part, and c is the outer radius of said second cladding part.

29. (Original) A dispersion compensator, comprising:

an optical component having a predetermined accumulated chromatic dispersion at a wavelength of 1.55 μm; and

a housing for accommodating said optical component,

wherein the volume V ($cm^3$) of said housing and the accumulated chromatic dispersion AD (ps/nm) of said optical component satisfy the following relationship:

$V \leq -0.31 \times AD + 120$.

30. (Original) A dispersion compensator according to claim 29, wherein the insertion loss IL (dB) at the wavelength of 1.55 μm and the accumulated chromatic dispersion AD (ps/nm) of said optical component satisfy the following relationship:

$IL \leq -0.0033 \times AD + 1.9$.

31. (Original) A dispersion compensator according to claim 29, wherein said optical component includes an optical fiber comprising:

a center core part extending along a predetermined axis and having a predetermined maximum refractive index;

a first cladding part, provided on an outer periphery of said center core part, having a refractive index lower than that of said center core part;

a second cladding part, provided on an outer periphery of said first cladding part, having a refractive index higher than that of said first cladding part; and

a third cladding part, provided on an outer periphery of said second cladding part, having a refractive index lower than that of said second cladding part.

32. (Original) A dispersion compensator according to claim 31, further having, as a characteristic at the wavelength of 1.55 μm, a bending loss of 0.1 dB/km or less in a state wound at a diameter of 60 mm.

33. (Previously Presented) A dispersion compensator according to claim 29, wherein said

second cladding part has a relative refractive index difference of 0.2% to 0.9% with reference to the refractive index of said third cladding part; and

wherein said optical fiber satisfies the following conditions:

$0.19 \leq a/c < 0.4$, and

$0.4 \leq b/c \leq 0.8$

where a is the outer radius of said center core region, b is the outer radius of said first cladding part, and c is the outer radius of said second cladding part.

34. (New) A dispersion compensator according to claim 1, wherein said optical component has a mode field diameter of 4.5 μm or less at a wavelength of 1550 nm.

35. (New) A dispersion compensator according to claim 8, wherein said optical component has a mode field diameter of 4.5 μm or less at a wavelength of 1550 nm.

36. (New) A dispersion compensator according to claim 15, wherein said optical component has a mode field diameter of 4.5 μm or less at a wavelength of 1550 nm.

37. (New) A dispersion compensator according to claim 22, wherein said optical component has a mode field diameter of 4.5 μm or less at a wavelength of 1550 nm.

38. (New) A dispersion compensator according to claim 29, wherein said optical component has a mode field diameter of 4.5 μm or less at a wavelength of 1550 nm.